

REMARKS

Claims 1, 3-10 and 12-21 are pending and rejected in this application. Claims 9, 13 and 18 are amended hereby. In the previous Office Action the Examiner had indicated that claims 18-21 were allowed and that claims 2-6 and 11-14 were objected to, thereby causing Applicant to amend independent claims 1 and 9 so as to place the application in condition for allowance.

Responsive to the objection to claims 18-21, Applicant has amended claim 18 striking the words "as an integral unit", keeping in mind the comments of the Examiner. For the foregoing reason, Applicant submits that claims 18-21 are now in allowable form.

Responsive to the rejection of claims 1, 3-10 and 12-21 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,772,913 (Watanabe), Applicant respectfully traverses the rejection and submits that claims 1, 3-10 and 12-21 are in condition for allowance.

Watanabe discloses an image forming method and apparatus with variable fixing pressure in a multiple copy mode (Figs. 14-16) including upper and lower heat rollers 22₁ and 22₂. Upper heat roller 22₁ is driven by a fixing DC brushless motor 78 through a reduction gear/transmission device and a one-way clutch 77. Lower heat roller 22₂ is urged against upper heat roller 22₁ by arms 79, which also serve as cam plates and biasing springs 80 so as to be rotated in accordance with the rotation of upper heat roller 22₁. Only when motor 78 is rotated along a direction indicated by arrow h in Fig. 14 upon operation of clutch 85, cams 86 push up arms 79, thus biasing or moving the lower heat roller 22₂ against or from upper heat roller 22₁. Fig. 15 shows the state where lower heat roller 22₂ is separated from upper heat roller 22₁. A point of cam 86 is at a lower dead point in which upper and lower heat rollers 22₁ and 22₂ form a gap G therebetween, resulting in a maintenance position in case of a paper jam (column 5, line 31 through column 6, line 23).

In contrast claim 1 recites in part:

a backup roll mounted in said frame and disposed in nipped relationship with said hot roll;

media drive rolls defining a duplexing path in said fuser ...

(Emphasis added). Applicant submits that such an invention is neither taught, disclosed nor suggested by Watanabe or any of the other cited references, alone or in combination, includes distinct advantages thereover.

Watanabe discloses a lower heat roller that disengages from the upper heat roller when the motor is driven in a reverse direction. To form a gap G therebetween the rotation of the motor of Watanabe is reversed to cause the rotation of shaft 82 by way of clutch 85. It is only when the motor is in reverse that shaft 82 is rotated so as to alter the pressure of the lower heat roller against the upper heat roller and to even cause the lower heat roller to separate from the upper heat roller. When this action is undertaken and the lower heat roller is disengaged then the two heat rollers are disengaged from each other and are no longer in nipped relationship, which is contrary to Applicant's claim. If the effect of driving the motor in reverse is to cause the lower heat roller to simply engage and disengage from the upper heat roller, as indicated in the specification and the drawings of Watanabe, then no duplexing path is described nor is the backup roll engaged in a nipped relationship with the hot roll when it is disengaged as described by Watanabe. Therefore, Watanabe and any of the other references, alone or in combination fail to disclose, teach or suggest a backup roll mounted in the frame and disposed in nipped relationship with the hot roll and having media drive rolls defining a duplexing path in the fuser, as recited in claim 1.

Applicant's invention has a distinct advantage over the cited references in that Applicant's invention disengages the drive from the fuser rollers during the duplexing operation, thereby reducing the load on the motor during the duplexing operation. For the foregoing reasons,

Applicant submits that claim 1, and claims 3-8 depending therefrom are in condition for allowance, which is hereby respectfully requested.

In further contrast, claim 9 as amended recites in part:

said drive train adapted to be engaged with and disengaged from said hot roll gear.
(Emphasis added). Applicant submits that such an invention is neither taught, disclosed nor suggested by Watanabe or any of the other cited references alone or in combination and includes distinct advantages thereover.

Watanabe discloses a lower heat roller that disengages from the upper heat roller when the motor is driven in reverse direction. To form a gap G therebetween the rotation of the motor of Watanabe is revered to cause the rotation of shaft 82 by way of clutch 85. It is only when the motor is in reverse that shaft 82 is rotated so as to alter the pressure of the lower heat roller against the upper heat roller and to even cause the lower heat roller to separate from the upper heat roller. When this action is undertaken and the lower heat roller is disengaged then the two heat rollers are disengaged from each other. If the effect of driving the motor in reverse is to cause the lower heat roller to simply engage and disengage from the upper heat roller as indicated in the specification and the drawings of Watanabe, then the rolls are disengaged from each other. In contrast, Applicant's invention is directed to a hot roll gear that is engaged and disengaged from the drive train. Therefore, Watanabe and any of the other references, alone or in combination fail to disclose, teach or suggest a drive train adapted to be engaged with and disengaged from the hot roll gear, as recited in claim 9.

Applicant's invention has distinct advantages over the cited references in that Applicant's invention disengages the drive from the fuser rollers during the duplexing operation, thereby reducing the load on the motor during the duplexing operation. A further advantage of Applicant's invention is that the combination of the engagement and disengagement of the hot

roll gear advantageously allows a lower load on the bi-directional motor than the prior art. For the foregoing reasons, Applicant submits that claim 9 and claims 13-17 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

In still further contrast, claim 18 recites in part:

operating the drive motor in an opposite direction for routing the media to a duplexing path

(Emphasis added). Applicant submits that such an invention is neither taught, disclosed nor suggested by Watanabe or any of the other cited references, alone or in combination and includes distinct advantages thereover.

Watanabe discloses a lower heat roller that disengages from the upper heat roller when the motor is driven in reverse direction. To form a gap G therebetween the rotation of the motor of Watanabe is reversed to cause the rotation of shaft 82 by way of clutch 85. It is only when the motor is in reverse that shaft 82 is rotated so as to alter the pressure of the lower heat roller against the upper heat roller and to even cause the lower heat roller to separate from the upper heat roller. When this action is undertaken and the lower heat roller is disengaged then the two heat rollers are disengaged from each other and are no longer in nipped relationship. Contrary to the Examiner's indication that Watanabe discloses a duplexing function in column 5, lines 50-64 no such recitation is contained therein. The purpose of Watanabe driving the motor in reverse direction is to engage a clutch so as to rotate and alter the pressure or gap between the two heated rollers. Therefore, Watanabe and any of the other cited references alone or in combination, fail to disclose, teach or suggest the step of operating the drive motor in an opposite direction for routing the media to a duplexing path, as recited in claim 18.

Applicant's invention has distinct advantages over the cited references in that the reversal of the motor causes the media to be directed along a duplexing path. For the foregoing reasons,

Applicant submits that claim 18 and claims 19-21 depending therefrom are in condition for allowance, which is hereby respectfully requested.

For the foregoing reasons, Applicant submits that no combination of the cited references teaches, discloses or suggests the subject matter of the amended claims. The pending claims are therefore in condition for allowance, and Applicant respectfully requests withdrawal of all rejections and allowance of the claims.

In the event Applicant has overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicant hereby conditionally petitions therefor and authorizes that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Should any question concerning any of the foregoing arise, the Examiner is invited to telephone the undersigned at (260) 897-3400.

Respectfully submitted,



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CERTIFICATE OF MAILING

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on: October 2, 2006.

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October 2, 2006

Date